

Higher Education Research

Mission

To create and disseminate knowledge across all academic disciplines.

Summary of Activities

Indiana's public universities are engaged in a vast array of research activities across all fields of inquiry. Some research is sponsored directly by the universities or their academic departments, while other research is funded by the state, agencies of the federal government, foundations, or corporations. Indiana is relatively unique among states with similar population size in that it supports two major public research universities as well as a major medical school. Together, **Indiana University** and **Purdue University** reported spending nearly \$515 million on science and engineering research and development activities in federal fiscal year (FFY) 2001.

In addition to research funded in a general sense through state operating appropriations to the universities, which is a very small portion of total university research expenditures, the state funds a number of specific research activities directly. These activities are directed at issues with immediate application to the health and welfare of the citizens of Indiana and often include a substantial public service component. Among these activities are spinal cord and paralysis research, the work of the Indiana Geological Survey, agricultural and veterinary research, support for Internet2, and support for the Indiana Institute on Disability and Community.

External Factors

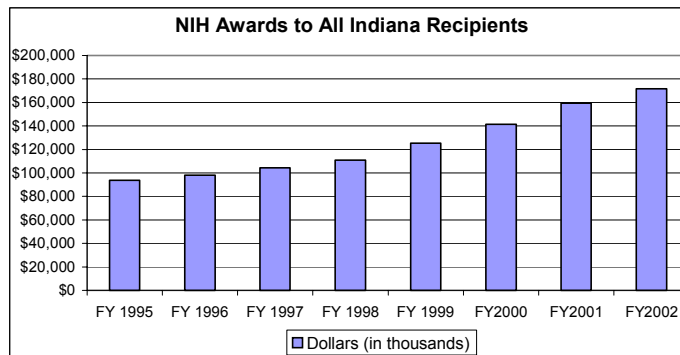
The most significant external factors affecting research at universities are the recent growth in federal funding for research and the competitive environment for research dollars nationwide. Federal funding for research sponsored by the National Institutes of Health doubled between FY 1995 and FY 2002, and research funding provided by the National Science Foundation is expected to double between FY 2002 and FY 2007. During the period from FY 1998 to FY 2002, National Institute of Health support for Indiana public universities increased from \$101.4 million to \$151.0 million.

While growth in funding has presented universities with new opportunities, competition for research funding has also increased nationwide. The state has chosen to address both the new opportunities and the competition in several ways. First, Governor O'Bannon proposed the creation of the 21st Century Research and Technology Fund in 1999. The fund, which received a \$75 million appropriation from the 2003 General Assembly, leverages external funding opportunities and encourages collaboration between Indiana's universities and the private sector.

Second, as part of the O'Bannon/Kernan Energize Indiana plan, five new research facilities for Purdue University and Indiana University were authorized by the General Assembly. Finally, 2003-05 university operating appropriations for Indiana University, Purdue University, and Ball State University include new funding to help them meet matching requirements for new research grants and to defray some of the unreimbursed indirect costs of research.

Evaluation and Accomplishments

While much research may be "pure" in the sense that it is undertaken to extend the boundaries of knowledge alone, a great deal of research conducted at Indiana universities is "applied" — its results have direct applications in improving Hoosiers' quality of life and developing Indiana's economy. For example, research at Purdue University often leads to inventions and processes that are ultimately licensed for commercial use, and Purdue has been active in licensing to Indiana companies and start-ups in the state. Some of the new companies resulting from research at Purdue include SSCI; Endocyte, Inc.; Cook Biotech, Inc.; Optolynx, Inc.; SpectraCode; and Advanced Process Combinatorics.



In a similar vein, the Advanced Research & Technology Institute is dedicated to building Indiana's future with strategic commercialization of research and technology through Indiana University and business/industry collaboration. ARTI's mission is to enhance Indiana's business competitiveness through technology innovation. With eight IU campuses throughout the state, ARTI provides access to IU's technology expertise, expands Indiana's research, development, and technology infrastructure and creates collaborative environments to advance Indiana's technology future.

With the opening of the Indiana University Emerging Technologies Center, a life sciences business incubator, ARTI is now hosting numerous companies that provide jobs and corporate income to the citizens of Indiana. Two of those successful companies, formed from technology created at IU, include Therametric Technologies, a company dedicated to the early detection and treatment of dental caries, and Optosonics, a corporation developing a new imaging system for early detection of breast cancer without using radiation.

The economic benefits of research extend beyond new products and services; Indiana University estimates that its 2001-02 level of research and development spending supported over 12,100 jobs.

Plans for the Biennium

Opened in 1961, Purdue Research Park provides an interactive environment for private business and industry, mainly in high-tech fields, and Purdue University researchers. The Park is home to more than 90 companies that employ 2,500 people. Many of them are developing Purdue-licensed technologies. Following action by the 2002 General Assembly, Purdue University applied for, and received, Indiana's first Certified Technology Park designation for Purdue Research Park. The designation entitles the Park to seek funding from the Indiana Department of Commerce's Technology Development Grant Fund. These funds will support the second phase of the Park's development.

Activated in 2001, I-Light (a high-performance, optical-fiber network) links the campuses of Indiana University, Purdue University and Indiana University-Purdue University at Indianapolis. Expanding capacity by connecting the universities to the Internet2, I-Light will be a critical component for many projects including telemedicine, the Indiana Genomics Initiative, and the ATLAS experiment.

The 2003-05 biennium will mark the beginning of state appropriated general operating research funds for the research and doctoral campuses. Base operating appropriation increases totaling over \$6 million for FY 2004 and over \$12 million for FY 2005 were approved by the 2003 General Assembly.

